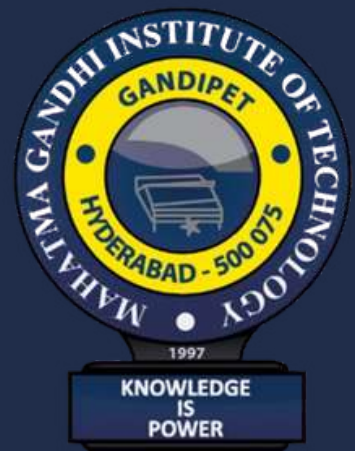# EEE'S QUARTERLY
NEWS LETTER

MAHATMA GANDHI INSTITUTE OF TECHNOLOGY

ABOUT US

MGIT envisions, inspires and motivates its students to imbibe knowledge with which they can excel and serve the nation with great elan. To nurture students into disciplined young citizens of irreproachable character, coupled with hands – on training and to make them readily employable by fostering social, cultural and environmental consciousness.

Faculty Achievements:

DR. K. VAMSHI KRISHNA VARMA

During this period, Dr. K. Vamshi Krishna Varma successfully completed his doctoral research, marking a significant academic achievement for the department. He registered for his Ph.D. in 2017, undertaking an extensive study titled "Design and Development of Novel DC–DC Boost Converter Topologies for Solar PV System." His research focused on creating innovative power converter designs aimed at enhancing the efficiency and performance of solar photovoltaic systems—an area of growing importance in renewable energy technology. Dr. Varma pursued his doctoral work at Kalasalingam Academy of Research and Education, and he was formally awarded his Ph.D. in July 2022. His accomplishment not only strengthens the department's research profile but also contributes to advancements in sustainable energy solutions.

MRS. M. NALINI DEVI

Mrs. M. Nalini Devi, Assistant Professor in the Department of Electrical and Electronics Engineering, actively contributed to academic discourse by participating in the prestigious International Conference on Innovations in Engineering and Technology (ICIET-2022). She presented her research paper titled "Application of Sensorless Sliding Mode Observer in Control of Induction Motor Drive," a work that delves into advanced control methodologies aimed at enhancing the precision, efficiency, and stability of induction motor operations. Her study emphasizes the use of sensorless techniques combined with sliding mode control to address challenges related to system robustness and control accuracy—an area of significant importance in modern industrial automation.
 The event, organized by Jawaharlal Nehru Technological University, Hyderabad (JNTUH) from 15th to 17th September 2022, offered a platform for researchers, academicians, and industry experts to exchange emerging ideas in electrical engineering.

MR. CH. VINAY KUMAR

Mr. Ch. Vinay Kumar, Assistant Professor in the Department of Electrical and Electronics Engineering, also brought distinction to the institution through his participation in ICIET-2022. He presented an in-depth research paper titled "Performance Evaluation of BLDC Motor Drive System Using Adaptive Neuro-Fuzzy PSO and GA Interference Algorithm." His work investigates advanced intelligent control and optimization techniques for Brushless DC (BLDC) motor drives—an area crucial to electric vehicle technology, robotics, and high-efficiency industrial systems.
   The research integrates adaptive Neuro-Fuzzy logic with advanced optimization algorithms such as Particle Swarm Optimization (PSO) and Genetic Algorithm (GA), aiming to significantly improve the dynamic response, efficiency, and reliability of BLDC drive systems. Presented at the conference hosted by JNTUH, Hyderabad, from 15th to 17th September 2022, his contribution reflects the department's ongoing commitment to cutting-edge research.

Faculty Publications & Patents

DR. P. CHANDRA SEKHAR

Dr. P. Chandra Sekhar demonstrated significant research contribution through the publication of his paper titled "Control of DSTATCOM Using ANN-BP Algorithm for the Grid-Connected Wind Energy System." This work focuses on the development of an intelligent control strategy for Distribution Static Compensators (DSTATCOM), employing an Artificial Neural Network–Back Propagation (ANN-BP) approach to enhance the stability and quality of power in grid-connected wind energy systems.

MRS. M. NALINI DEVI

Mrs. M. Nalini Devi, Assistant Professor, further strengthened the department's academic profile by publishing her research work titled "Application of Sensorless Sliding Mode Observer in Control of Induction Motor Drive." Her study explores the integration of sensorless control techniques with Sliding Mode Observer (SMO) methodologies to achieve enhanced dynamic performance, reduced system complexity, and improved reliability in induction motor drive applications. This research is particularly relevant to the advancement of industrial automation and electric drive systems, where precision and robustness are critical.

MR. CH. VINAY KUMAR

Mr. Ch. Vinay Kumar, Assistant Professor, enriched the research landscape of the department through his publication titled "Designing of Neuro-Fuzzy Controllers for Brushless DC Motor Drives Operating with Multiswitch Three-Phase Topology." This work presents an advanced control framework that combines Neuro-Fuzzy logic with innovative multiswitch three-phase converter configurations to enhance the performance, efficiency, and responsiveness of BLDC motor drives. The study is particularly valuable for applications involving electric vehicles, robotics, and high-precision motion control, where intelligent control strategies play a pivotal role.

MRS. M. NALINI DEVI

Mrs. M. Nalini Devi, Assistant Professor in the Department of Electrical and Electronics Engineering, has demonstrated her commitment to innovation through the filing of a patent titled "A Novel Design of Fuzzy Logic–Based Sliding Mode Controller for Induction Motor." Filed on 13 January 2023, the patent proposes an advanced hybrid control strategy that integrates the robustness of Sliding Mode Control with the adaptability of Fuzzy Logic techniques. This inventive combination aims to significantly enhance the stability, efficiency, and precision of induction motor control systems—an area of critical importance in modern industrial automation, electric mobility, and high-performance drive applications.

STUDENT ACHIEVEMENTS

BEGARI SNEHANKITHA

Begari Snehankitha (Roll No. 20261A0204) demonstrated exceptional enthusiasm and dedication toward the promotion of cultural arts by participating in the Cultural Group/Solo Folk Dance Competition organized at Jawaharlal Nehru Technological University, Hyderabad (JNTUH) on 30 September 2022. Through her active involvement, she showcased not only her individual talent but also her commitment to preserving and celebrating India's rich folk dance traditions. Her participation reflects the institution's emphasis on holistic student development, encouraging learners to explore creative and cultural avenues alongside their academic pursuits. Snehankitha's representation at a university-level platform highlights her ability to excel in co-curricular activities, while also contributing to the college's visibility in cultural events.

SAAKKETH GOUTI

Saakketh Gouti (Roll No. 20261A0216) made a noteworthy effort in skill enhancement by completing the Data Analytics and Visualization Virtual Experience Program, conducted by FORAGE, on 25 September 2022. This program exposed him to real-time industrial practices in data interpretation, visualization techniques, and analytical decision-making—skills that are increasingly vital in today's data-driven technological landscape. Through this experience, he gained valuable insights into industry workflows, advanced problem-solving methods, and practical exposure to tools commonly used by data professionals. His participation illustrates a forward-thinking approach toward professional development, demonstrating his initiative in acquiring competencies that align with modern engineering and industry demands. Such achievements reflect the institution's focus on nurturing industry-ready graduates equipped with both technical knowledge and practical experience.